

AMENDMENT AND RESPONSE

Serial No. 10/537,467

Page -2-

**In The Claims:**

Please replace the previously presented claim set with the following replacement claim set:

1-21. (Canceled)

22. (Previously Presented) A particulate suspension comprising a liquid phase having suspended therein a solid substantially insoluble in said liquid phase, wherein the suspension is stabilised by the reaction product of:

(i) a polymeric stabiliser having a hydrophilic moiety and a hydrophobic moiety and comprising a plurality of vinylic monomers, not being exclusively of vinylic esters or of their hydrolysed products, at least some of which contain functional groups capable of undergoing cross-linking nucleophilic or condensation reactions, and

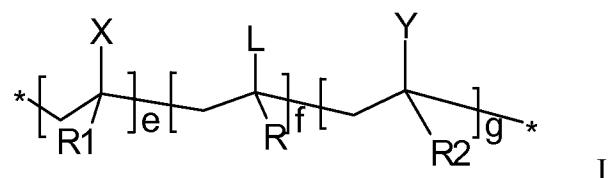
(ii) one or more substances contained in the liquid phase capable of undergoing a cross-linking reaction with said functional groups;

wherein the ratio by weight of (a) the polymeric stabiliser prior to cross-linking to (b) the suspended solid is less than 1 part of polymeric stabiliser per 5 parts of suspended solid by weight.

23. (Previously Presented) A particulate suspension according to claim 22, wherein the suspended solid comprises an agrochemical solid.

24. (Previously Presented) A particulate suspension according to claim 23, wherein the agrochemical solid has a particle size of from 1 to 10 microns.

25. (Previously Presented) A particulate suspension according to claim 22, wherein said polymeric stabiliser is represented by the general formula (I):



AMENDMENT AND RESPONSE

Serial No. 10/537,467

Page -3-

wherein:

one \* represents a residue of an initiator group and the other \* represents a residue of a terminator group;

R1, R and R2 are each independently H or methyl;

X is a hydrophilic moiety;

L is a moiety containing a cross-linking group;

Y is a hydrophobic moiety;

e ranges from 0 to 0.8;

f ranges from 0.05 to 0.4;

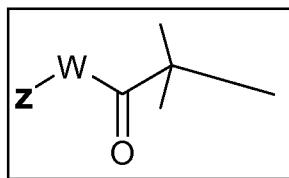
g ranges from 0.10 to 0.90; and

e + f + g equals 1;

provided that when e is 0, at least one \* represents the residue of a hydrophilic initiator.

26. (Previously Presented) A particulate suspension according to claim 25, wherein e ranges from 0.005 to 0.35, and f ranges from 0.01 to 0.4.

27. (Previously Presented) A particulate suspension according to claim 25, wherein one \* represents the residue of a hydrophilic initiator and said residue has the formula



II

wherein Z is a hydrophilic group selected from C<sub>1</sub> to C<sub>4</sub> alkoxypolyethylene glycol, phenoxy polyethylene glycol, poly(acrylamide), poly(vinyl pyrrolidone) or poly(methyl vinyl ether), and -W- is -O- or -NA- wherein A is hydrogen or a C<sub>1</sub> to C<sub>4</sub> alkyl group.

28. (Previously Presented) A particulate suspension according to claim 25, wherein:

-X is or carries a hydrophilic moiety X' selected from -SO<sub>3</sub><sup>-</sup>; polyethylene glycol optionally end-capped with C1-C4 alkyl; -COOH or a salt thereof; carboxybetaine; sulfobetaine;

AMENDMENT AND RESPONSE

Serial No. 10/537,467

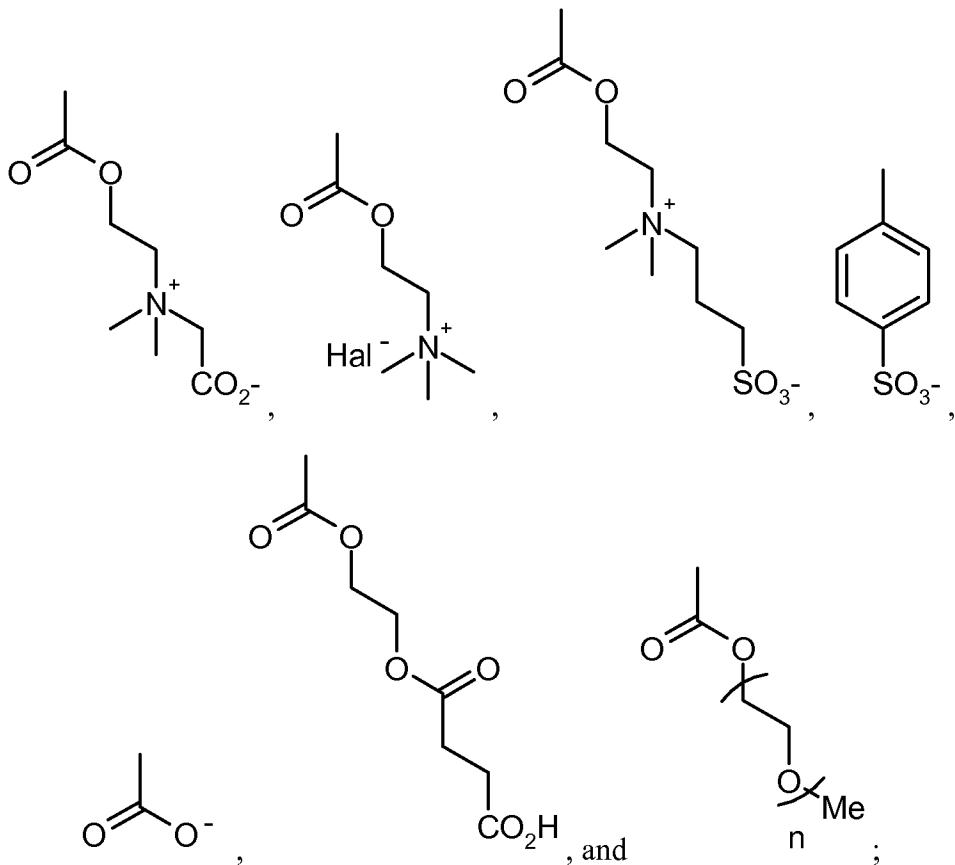
Page -4-

and a quaternary ammonium salt  $-N^+R^3_3C^-$  wherein each  $R^3$  is independently H or  $C_1-C_4$  alkyl or  $-CH_2CH_2OH$ ;

$-L$  is or carries a cross-linking group  $L'$  selected from  $-OH$ ;  $-SH$ ;  $-NHA$  where A is hydrogen or  $C_1-C_4$  alkyl; and  $-COOH$  or a salt thereof; and

$-Y$  is or carries a hydrophobic moiety  $Y'$  selected from  $-CO-O-(Si(CH_3)_2O)_n-H$  wherein n is from 3 to 20;  $-CO-O$ -polypropylene glycol;  $-CO-O-A$  wherein A is a  $C_1-C_{12}$  alkyl group, cycloalkyl group, alkylcycloalkyl group, aralkyl group or alkylaryl group; and  $-CONHB$  wherein B is a  $C_5-C_{12}$  alkyl group.

29. (Previously Presented) A particulate suspension according to claim 28, wherein  $-X$  is selected from the groups:



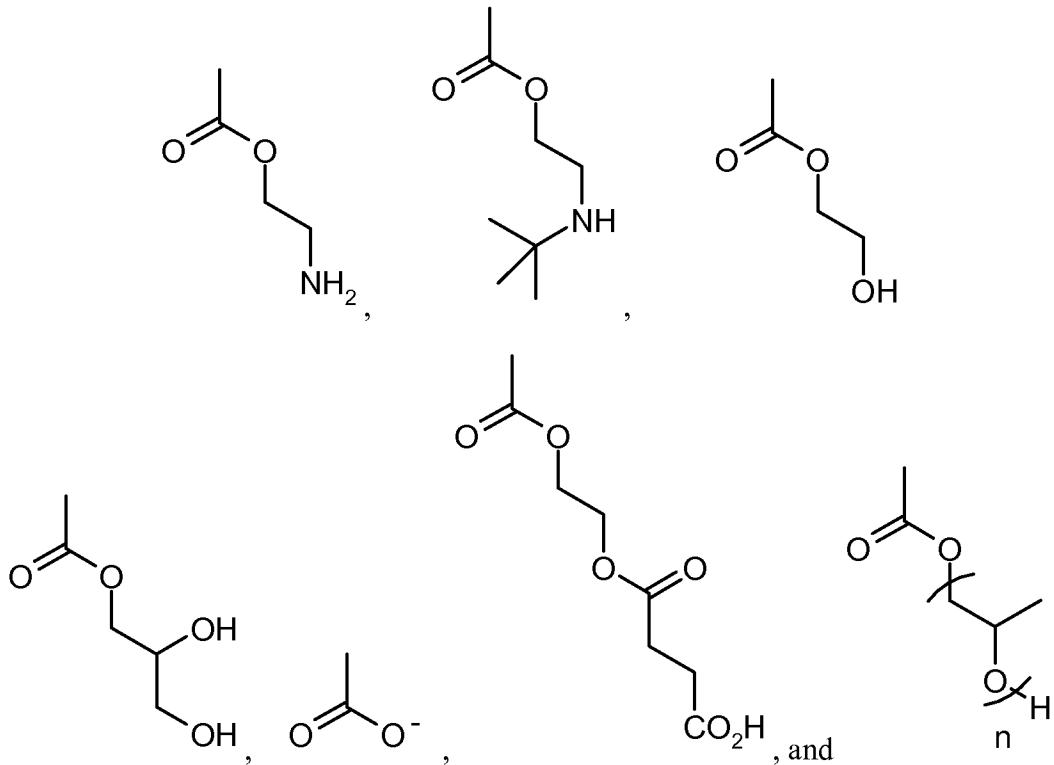
wherein n indicates an average degree of polymerisation of a polyethylene glycol chain and is from 5 to 100.

AMENDMENT AND RESPONSE

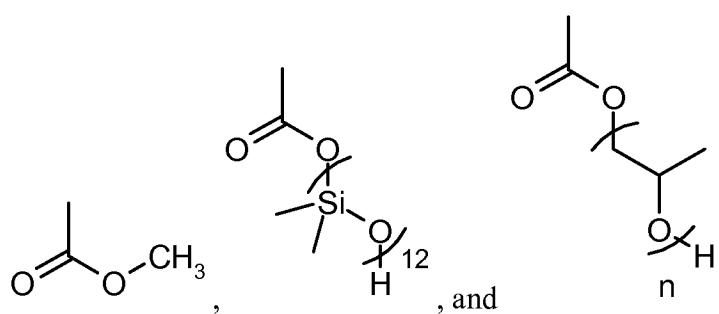
Serial No. 10/537,467

Page -5-

30. (Previously Presented) A particulate suspension according to claim 28, wherein  $-L$  is selected from the groups:



31. (Previously Presented) A particulate suspension according to claim 28, wherein  $-Y$  is selected from the groups:



AMENDMENT AND RESPONSE

Serial No. 10/537,467

Page -6-

32. (Currently Amended) A particulate suspension according to claim 22, wherein said polymeric stabiliser comprises:

(i) a hydrophilic moiety derived from one or more vinylic monomers selected from 2-(N,N-dimethyl-N-(2-methacryloxyethyl) ammonium)ethanoic acid; 2-(trimethylammonium)ethyl methacrylate salt; 3-(N,N-dimethyl-N-(2-methacryloxyethyl) ammonium)propyl-sulphonic acid; the sodium salt of methacrylic acid; mono-2-(methacryloyloxy)ethyl succinate; mono-methoxy poly(ethylene glycol) mono-methacrylate; styrene-4-sulfonic acid; 4-vinylbenzyl trimethyl ammonium chloride; 2-N-morpholinoethyl; 2-methacryloxyethylphosphonate methacrylate; 2-acrylamido-2-methylpropane sulphonic acid; mono-methoxy-PEO-(meth)acrylate; acrylamide; vinyl pyrrolidone; 2-sulphoethyl methacrylate; 2-acrylamido-2-methylpropane sulphonic acid; quaternary salts of dimethylaminoethyl methacrylate (DMAEMA) and of dimethylaminoethyl acrylate or DMAEMA at acid pHs; 2-(trimethylammonium)ethyl methacrylate iodide; 2-(N,N-dimethyl-N-(2-methacryloxyethyl) ammonium)ethanoic acid; and styrene-4-sulfonic acid;

(ii) a moiety that possesses reactive or cross-linking ability with respect to said one or more substances contained in said aqueous phase of said suspension and capable of undergoing a cross-linking reaction with said functional group and being derived from one or more vinylic monomers selected from 2-aminoethyl methacrylate; 2-(tert-butylamino) ethyl methacrylate; 2-hydroxyethyl methacrylate; 2,3-dihydroxypropyl methacrylate; the sodium salt of methacrylic acid; mono-2-(methacryloyloxy)ethyl succinate; poly(propylene glycol) mono-methacrylate; 2-aminoethyl methacrylate hydrochloride; N-(3-aminopropyl)methacrylamide hydrochloride; 4-aminostyrene; 2-(iso-propylamino)ethylstyrene; 4-N-(vinylbenzyl)aminobutyric acid; 3-(N-styrylmethyl-2-aminoethylamino)-propyltrimethoxysilane hydrochloride; N-(3-methacryloxy-2-hydroxypropyl)-3-aminopropyltriethoxysilane; 2-methoxy-4-vinylphenol; 4-vinylbenzyl alcohol; 4-vinylphenol; 2,6-dihydroxymethyl-4-methoxystyrene; 3,5-dimethoxy-4-hydroxystyrene; 2-hydroxy-3-methacryloxypropyl trimethyl ammonium chloride; 3-chloro-2-hydroxypropyl methacrylate; 3-hydroxypropyl methacrylate; 2-hydroxy-3-phenoxypropyl methacrylate; diethylene glycol mono-methacrylate; 2-methacryloxyethyl glucoside; sorbitol methacrylate; caprolactone 2-methacryloxyethyl ester; 4-hydroxybutyl methacrylate; 2-hydroxypropyl methacrylate; acrylic acid; beta-carboxyethylacrylic acid; 4-vinylbenzoic acid; 4-((3-methacryloxy)propoxy)benzoic acid; mono-(2-(methacryloxy)ethyl)phthalate itaconic acid;

AMENDMENT AND RESPONSE

Serial No. 10/537,467

Page -7-

iminated derivatives of polymerized acrylic acid, beta-carboxyethylacrylic acid, 4-vinylbenzoic acid, 4-((3-methacryloxy)propoxy)benzoic acid, mono-(2-(methacryloxy)ethyl)phthalate or itaconic acid; and glycidyl (meth)acrylate reacted with alkylamines; and

(iii) a hydrophobic moiety derived from one or more vinylic monomers selected from methyl methacrylate; poly(dimethylsiloxane); mono-methacrylate; and poly(propylene glycol) mono-methacrylate.

33. (Canceled)

34. (Previously Presented) A particulate suspension according to claim 25, wherein e ranges from 0.1 to 0.5.

35. (Previously Presented) A particulate suspension according to claim 27, wherein (i) said polymeric stabilizer is a block copolymer comprising a hydrophilic block and a hydrophobic block; (ii) said hydrophilic block comprising at least one of (1) said residue having formula (II) and (2) a hydrophilic unit (-CH<sub>2</sub>CR<sup>1</sup>X-); and (iii) said hydrophobic block comprising randomly or sequentially copolymerised units (-CH<sub>2</sub>CR<sub>2</sub>Y-) and cross-linking units (-CH<sub>2</sub>CH<sub>2</sub>CRL-).

36. (Previously Presented) A particulate suspension according to claim 35, wherein f + g ranges from 0.2 to 1.0, and a ratio of f:g is from 1:2 to 1:10.

37. (Previously Presented) A particulate suspension according to claim 35, wherein:

(a) when said functional group on said polymeric stabiliser is hydroxyl or thiol, said one or more substances comprises an isocyanate, an ester, an epoxide, a divinylsulphone, or a glycerol triglycidyl ether;

(b) when said functional group on said polymeric stabiliser is -NHA wherein A is hydrogen or a C<sub>1</sub> to C4 alkyl group, said one or more substances comprises an isocyanate, an acetoacetoxy group, an aldehyde, an acrylate, a vinylsulphone, an epoxide, glycerol triglycidyl ether; glycerol propoxylate triglycidyl ether; trimethylolpropane triacrylate; trimethylolpropane

AMENDMENT AND RESPONSE

Serial No. 10/537,467

Page -8-

propoxylate triacrylate, glutaric dialdehyde, 2-(acetoacetoxy) ethyl acrylate, or 1,4-butandiol diacetoacetate; and

(c) when said functional group on said polymeric stabiliser is an acid reactive group, said one or more substances comprises an isocyanate, an aziridine or a carbodiimide.

38. (Previously Presented) A particulate suspension according to claim 37, wherein said functional group on said polymeric stabiliser is hydroxyl or thiol or -NHA, and said one or more substances comprises an isocyanate wherein the isocyanate is selected from m-phenylene diisocyanate; 1-chloro-2,4-phenylene diisocyanate; 4,4'-methylenebis(phenyl isocyanate); 3,3'dimethyl-4,4'-biphenylene diisocyanate 4,4'-methylenebis(2-methylphenyl isocyanate); 3,3'dimethoxy-4,4'biphenylene diisocyanate; 2,4-tolylene diisocyanate; 2,6-tolylenediisocyanate; tetramethyl-4,4'-biphenylene diisocyanate; isophorone diisocyanate; hexane-1,6-diisocyanate; tetramethylene xylene diisocyanate;  $\alpha$ ,4-tolylene diisocyanate; tolylene 2,5-diisocyanate; 2,4,6-trimethyl-1,3-phenylene diisocyanate; poly(ethylene adipate) tolylene 2,4-diisocyanate terminated; poly(isophorone diisocyanate); poly(propylene glycol) tolylene 2,4-diisocyanate terminated; poly(1,4-butanediol) tolylene diisocyanate terminated; 1,8-diisocyanatooctane; poly(hexamethylene diisocyanate); poly(tolylene 2,4-diisocyanate); poly(tetrafluoroethylene oxide-co-difluoromethylene oxide)  $\alpha,\omega$ -diisocyanate; 1,4-diisocyanatobutane; 1,3-phenylene diisocyanate; 1,4-phenylene diisocyanate; trans-1,4-cyclohexylene diisocyanate; m-xylylene diisocyanate;  $\alpha,\alpha$ -dimethyl- $\alpha$ ,4-phenylethyl diisocyanate; 4-bromo-6-methyl-1,3-phenylene diisocyanate; 4-chloro-6-methyl-1,3-phenylene diisocyanate; poly(1,4-butanediol) isophorone diisocyanate terminated; 3,3'-dimethyl-4,4'-biphenylene diisocyanate; and 1,3-bis(1-isocyanato-1-methylethyl)benzene.

39. (Previously Presented) A particulate suspension according to claim 22, wherein the ratio by weight of (a) the polymeric stabiliser prior to cross-linking to (b) the suspended solid is from 1 part of polymeric stabiliser to 200 parts of suspended solid to 1 part of polymeric stabiliser per 10 parts of suspended solid.

AMENDMENT AND RESPONSE

Serial No. 10/537,467

Page -9-

40. (Previously Presented) A particulate suspension comprising:

(a) a continuous aqueous liquid phase;

(b) a reaction product of:

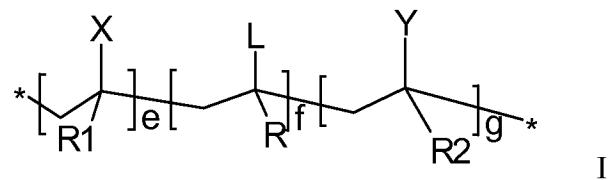
(i) a polymeric stabiliser having a hydrophilic moiety and a hydrophobic moiety and comprising a plurality of vinylic monomers, not being exclusively of vinylic esters or of their hydrolysed products, at least some of which contain functional groups capable of undergoing cross-linking nucleophilic or condensation reactions, and

(ii) one or more substances contained in the continuous aqueous liquid phase capable of undergoing a cross-linking reaction with said functional groups; and

(c) an agrochemical solid that is substantially insoluble in said continuous aqueous liquid phase and suspended within said continuous aqueous liquid phase via said reaction product;

wherein the ratio by weight of (a) the polymeric stabiliser prior to cross-linking to (b) the suspended agrochemical solid is less than 1 part of polymeric stabiliser per 5 parts of suspended agrochemical solid by weight.

41. (Previously Presented) A particulate suspension according to claim 40, wherein said polymeric stabiliser is represented by the general formula (I):



wherein:

one \* represents a residue of an initiator group and the other \* represents a residue of a terminator group;

R1, R and R2 are each independently H or methyl;

X is a hydrophilic moiety;

L is a moiety containing a cross-linking group;

Y is a hydrophobic moiety;

e ranges from 0 to 0.8;

f ranges from 0.05 to 0.4;

AMENDMENT AND RESPONSE

Serial No. 10/537,467

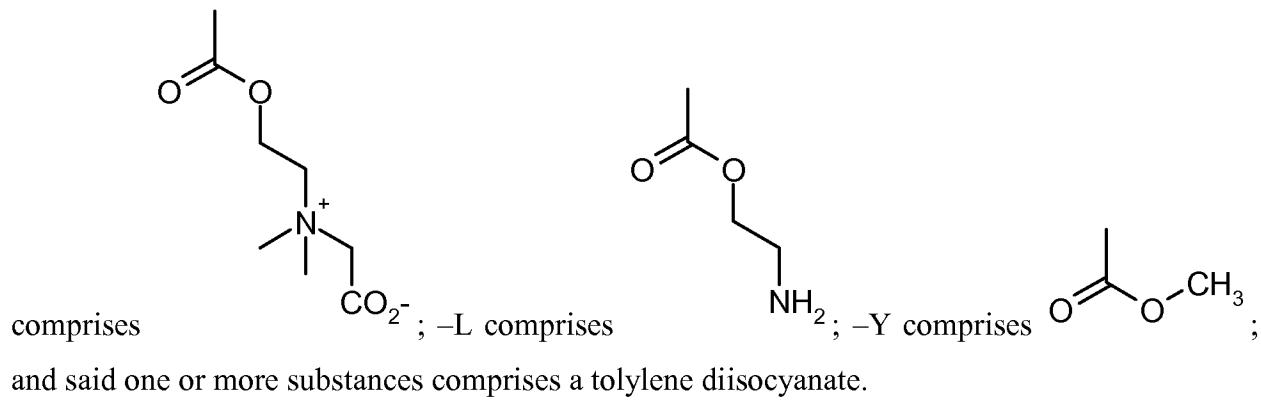
Page -10-

g ranges from 0.10 to 0.90; and

e + f + g equals 1;

provided that when e is 0, at least one \* represents the residue of a hydrophilic initiator; and said one or more substances comprises an isocyanate.

42. (Previously Presented) A particulate suspension according to claim 41, wherein -X



43. (Currently Amended) A particulate suspension according to claim 42, wherein said liquid phase comprises a single continuous aqueous liquid phase.